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FOREIGN AGRICULTURE

March 27, 1972

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TECHNOLOGY & SCIENCE

Australia's Traditional Agricultural Pattern Shifting

Japan's Rice Cutback Endangered

Foreign Agricultural Service
U.S. DEPARTMENT OF AGRICULTURE

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This week's cover:

Watering Aberdeen Angus steers in the Hunter River, New South Wales. Australian farmers are shifting to beef output to increase or maintain incomes; between 1969 and 1971, herd numbers rose 23 percent. Recently, tropical breeds and crosses have been introduced in northern Australia to promote heat tolerance, tick resistance, and hybrid vigor.

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AUSTRALIA Agri... in Tr...

Farmers shifting from traditional wheat and wool to beef, feedgrains, and oilseeds

By REED E. FRIEND
Foreign Demand and Competition Division
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Low wool prices and quotas on wheat delivery are causing Australian farmers to look toward alternative enterprises such as the production of beef, feedgrains, and oilseeds.

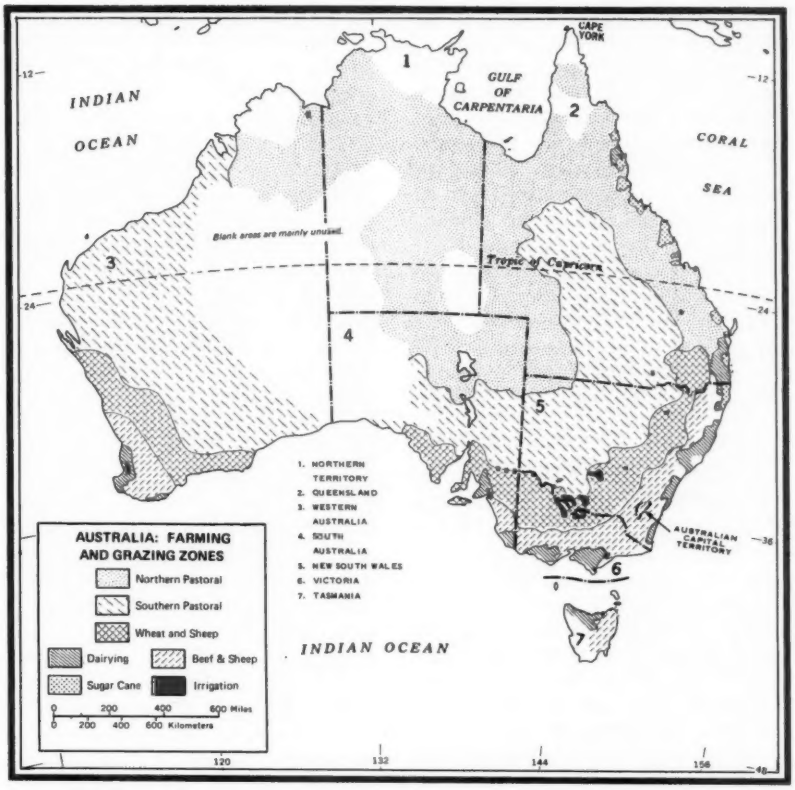
Feedgrains, particularly barley and sorghum, rapidly are becoming substitute crops for wheat. Barley is grown more widely than sorghum in Australia because of its greater adaptability to soil and climatic conditions. Oilseed production, although still relatively minor, has expanded quickly despite weather risks. Major increases are in rapeseed and sunflower.

Beef output also has grown rapidly in recent years. Herd numbers rose 23 percent between March 1969 and March 1971, accompanying an uptrend in beef prices. Declining wool prices, on the other hand, have caused some producers

to crossb... rams, th... lamb. Th... gressively... sources a... Austra... are deter... bility of... year whe... the grow... of the ag... vast past... in the no... ticularly... as well... and pred... interior... ceive so... vegetatio... About... cultural... zone. Th... and the... include... cattle rai... expandin... Paralle... the wheat... about 6... beef-shee...

Based on a comprehensive Economic Research Service study, "Australia: Growth Potential of the Grain and Livestock Sectors," by Reed E. Friend, E. Wayne Denney, Mary E. Long, and Thomas A. Twomey, to be published by ERS. Inquiries may be addressed to Economic Research Service, U.S. Department of Agriculture, Washington, D.C. 20250.

Agriculture in Transition



to crossbreed their ewes to meat-type rams, thus increasing production of lamb. They also are moving more aggressively into beef production when resources are available.

Australia's farming and grazing zones are determined largely by the availability of moisture, the seasons of the year when rain fails, and the length of the growing season. Nearly 80 percent of the agricultural area is located in the vast pastoral zone. Cattle predominate in the northern part of the zone, particularly in the tropics. Sheep do not do as well because of breeding problems and predators. However, some of the interior areas of the pastoral zone receive so little rainfall that the sparse vegetation will support only sheep.

About one-tenth of Australia's agricultural land area is in the wheat-sheep zone. The terrain is suitable for crops and the major one is wheat. Other crops include barley, oats, and oilseeds. Beef cattle raising, now on a minor scale, is expanding.

Paralleling the eastern perimeter of the wheat-sheep zone and accounting for about 6 percent of the farm area is the beef-sheep zone. This area has a growing season of 5 to 7 months, but the topography frequently makes crop cultivation difficult. However, the incidence and severity of droughts are considerably less than in the pastoral zone or the wheat-sheep zone. In recent years, this area has increased its share of sheep and cattle.

Australians, like any other farmers, are concerned with increasing or at least maintaining their farm incomes. Wheat delivery quotas, which began in 1969, cut into farm earnings by curtailing the quantity marketed under support prices. Also, declining wool prices, coupled with rising costs of production and droughts, have had a detrimental impact on net farm income and have led to considerable financial insolvency among sheep farmers. Thus, it has become necessary for Australian farmers to forsake to some degree their reliance on wheat and wool—the traditional mainstays of Australian agriculture—and seek alternative enterprises.

According to limited available information, wheat, which is under price support, is Australia's leading dollar earner per acre. Other enterprises most nearly approaching the profitability of wheat are beef and oilseeds. However, the relative profitability can vary by regions and there are ecological limits to alternative uses of land. Limited managerial capabilities, marketing facilities, capital, and credit also act to constrain production shifts.

Australia has reduced unit costs through major technological advances in its agriculture. However, buying new machinery, using new pesticides, and applying more modern techniques to land development, require additional investment.

Labor input per farm in Australia has declined in recent years, but the use of capital equipment has risen substantially. The grain harvest is highly mechanized. In addition, new crop varieties are being developed. Yields of a new crossbred variety of wheat of up to 100 bushels per acre under irrigation on experimental plots have been reported. (Information on how the new dwarf wheat variety performs under low rainfall conditions is unavailable. And this is the critical question for farmers since practically no wheat is grown under irrigation.) A new variety of barley, planted commercially for the first time in 1970,

is said to yield up to 10 to 20 percent more than older varieties.

Pasture improvement is generally regarded as the single most important development in agriculture in recent years. Improvements include new plant varieties, increased fertilization, and low-cost techniques for clearing land (until recently, Australia was adding a million acres a year to its agricultural land). Light aircraft are used extensively for seeding and fertilizing pastures. The introduction of myxomatosis—a virus spread rapidly by inoculated mosquitoes—to bring the rabbit infestation under control, was a landmark achievement in lessening pasture and crop losses.

Recently, there has been a strong trend, particularly in northern Australia, toward the use of tropical beef breeds and their crosses to promote heat tolerance, tick resistance, and hybrid vigor.

Australia depends heavily on export markets to dispose of surplus agricultural products. In 1970, exports of wool were 92 percent of production; wheat, 82 percent; beef and veal, 49; mutton and lamb, 36; and barley, 26.

All major farm commodities are subject to some form of State or Commonwealth Government control, but arrangements vary by product. The Wheat Board—the only commodity board directly controlled by the Commonwealth Government—has broad powers in trading and technically is responsible for marketing all wheat and flour in both the domestic and foreign markets. Feedgrain marketing varies from State to State depending on the crop and its importance in exports. Although the Commonwealth Government plays only a minor role in feedgrain sales, the Minister of Primary Industries attempts to insure adequate supplies of feed and malting grains for domestic use.

Livestock auctions are the chief marketing tool for sales of live animals in Australia. Auctions exist in all State capitals as well as in major rural livestock centers. Most cattle, calves, sheep, and lambs are auctioned on a per-head basis without being weighed.

Australia's slaughtering plants are subject to federal (Department of Primary Industry) sanitation and inspection requirements coordinated through State Departments of Agriculture. Not all plants are certified to ship meat to the United States, Australia's major meat export market. (*Foreign Agriculture*, Dec. 27, 1971.)

Assistance to Australian agriculture is provided through the Commonwealth Treasury in the form of grants, subsidies, and contributions to farmers. Direct Government payments on farm products (excluding fertilizer and other input subsidies) were US$143 million in 1970-71, including $34 million for emergency assistance to wool growers. Payments totaled $67 million in 1969-70 and $123 million in 1968-69.

Subsidies are provided on a broad range of farm inputs including fertilizer, irrigation, gasoline, tractors, and land. A subsidy on superphosphate—the most important fertilizer for both crops and pastures—was introduced in 1963 to encourage the development of new farm land. Subsidies on nitrogen fertilizer also are payable to farmers.

The Commonwealth Government is engaged in a 10-year program to assist States in developing irrigation, water conservation, and flood control projects. Commonwealth financial assistance, extended to States for land clearing and development, has played an important role in expanding farm land area. Subsidy payments have been made to farmers to lower their gasoline costs, and to manufacturers to lower the prices of farm tractors.

Commonwealth Government support in developing transportation facilities (especially "beef roads"), research and extension, and export promotion also has encouraged farm output. The same is true of the liberal income tax concession given farmers for capital investment in agriculture.

The growth potential of Australia's grain and livestock industries has been projected to 1975 under three sets of assumptions. Assumption No. 1 hypothesized constant prices and an elastic export demand. Assumption No. 2 hypothesized a 15-percent decline in grain prices but constant livestock prices and an elastic export demand. Assumption No. 3 saw a continuation of wheat quotas and selected price adjustments—a "most likely to occur" set of projections.

Assumption No. 3 considers a 5-percent rise in wheat quotas between 1971-72 and 1975; wheat, oats, and barley prices near base period levels; and sorghum and corn prices 5 to 10 U.S. cents per bushel higher than base period levels. Calculations of beef, mutton, and lamb prices assumed some decline by 1975, as a larger proportion of shipments to lower-priced markets are needed to absorb Australia's export availabilities.

Wheat production in 1975 was projected at 375 million bushels—about 125 million below the constant-price as-

(Continued on page 16)

PRODUCTION OF SELECTED COMMODITIES 1960-70 AND ANNUAL RATE OF INCREASE

Year	Wheat	Feedgrains	Beef	Mutton	Lamb	Wool
	Mil. bu.	*Mil. bu.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Bil. lb.*
Average:						
1960-61 to 1964-65	304.9	131.1	1,832.3	815.4	495.0	1.71
Annual:						
1960-61	273.7	156.3	1,328.3	824.3	463.7	1.63
1961-62	247.2	113.3	1,673.3	824.3	490.6	1.70
1962-63	306.9	126.1	1,937.6	813.1	517.4	1.67
1963-64	327.9	194.5	2,089.9	808.6	504.0	1.79
1964-65	368.8	133.4	2,134.7	808.6	501.8	1.78
Average:						
1965-66 to 1969-70	387.0	149.9	1,964.5	873.6	582.4	1.84
Annual:						
1965-66	259.7	114.6	1,973.4	873.6	468.2	1.66
1966-67	466.6	187.9	1,836.8	784.0	530.9	1.76
1967-68	277.3	170.6	1,888.3	922.9	542.1	1.77
1968-69	544.0	189.5	1,969.0	819.8	678.7	1.95
1969-70	387.5	163.4	2,150.4	972.2	694.4	2.05
1970-71	289.9	223.6	2,197.4	1,003.5	766.1	1.99
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Annual rate of increase[1]	4.9	2.9	1.4	1.4	3.3	1.4

[1] Between 1960-61 to 1964-65 average and 1965-66 to 1969-70 average.

India's Jute Industry Faced With Basic Marketing Problems

By LYLE E. MOE
Assistant U.S. Agricultural Attaché
New Delhi

India's jute industry—beset by a variety of problems—faces an uncertain future. In addition to a declining world market for most jute products and the growing use of synthetics, India may also feel the competition of reopened jute mills in Bangladesh. A recent arrangement by India to purchase 1.5 million bales of raw jute from Bangladesh could—at least temporarily—reduce this rivalry and breathe new life into market prospects for Indian jute goods.

Jute has long been India's major export item. From 1960-61 to 1965-66, annual export earnings from this fiber averaged $331 million, or nearly 20 percent of the country's total foreign exchange earnings. During the 4-year period ending 1970-71, however, annual export earnings from jute products averaged only $282 million. This drop in income occurred because of declining world demand and increasing competition from Pakistan.

While jute is used for a wide variety of products, its major applications are for carpet backing, for hessian (burlap), and for sacking. Carpet backing, used primarily by the tufted carpet industry, has been the bright spot in an otherwise somber situation.

Rising incomes in developed countries —particularly in the United States— have encouraged higher living standards with more money going into house furnishings and carpets.

The Indian jute industry is anticipating an annual increase of 10-15 percent in the demand for jute carpet backing over the next several years. Synthetics keep digging into the carpet backing trade but on a price-quality basis jute has been able to hold its own rather well to date, partly because the needed synthetics are in tight supply.

In contrast to carpet backing, the world market for hessian and sacking has steadily declined. Starting some years ago bulk handling of grains and similar commodities was found to be cheaper than bagging and demand for jute bags suffered as bulk handling became more widespread. A more recent and severe threat is now posed by the increasing use of synthetics.

Polyethylene is used extensively in developed countries for packing fertilizers and chemicals, while polypropylene also is a direct threat to jute in many traditional uses. In many developed countries there is also a movement to smaller size packages not requiring heavy-duty material.

There has been a tendency for some countries, particularly in Africa, to produce packaging fibers for domestic consumption, despite high costs. Countries having jute or similar fiber processing industries generally have protective tariffs or quota restrictions, thus reducing imports.

Two other important factors inhibiting the overall expansion of the jute trade have been erratic prices and uncertain supply. In past years short-term interruptions in supplies have occurred because of political disturbances, labor strikes, crop failures, and other causes, to the great concern of consumers in other countries.

Jute goods manufacturers and importers in developed nations have become increasingly skeptical as to the ability of jute-producing countries to grow sufficient jute at a competitive price, given the competition for land between rice and jute. Jute, like rice, is grown during the monsoon season and rice gets a higher priority.

The most significant feature of India's jute export trade is the American market. In recent years the United States has accounted for some 80 percent of India's total exports of carpet backing and 30 percent of its total exports of hessian. In value terms, nearly 50 percent of India's foreign exchange earnings from jute come from the U.S. market.

Together, India and Pakistan traditionally have accounted for more than 90 percent of the world jute export trade. India's market share of total jute sales was 72 percent in 1960, but it fell to approximately 55 percent by 1969. Although there was some decline in the overall jute market, nearly all of the drop in India's market share was taken up by increasing exports from Pakistan.

After the India-Pakistan partition in 1947 most of the jute mills were located in India while major production areas were in Pakistan. Consequently, India initiated programs to boost jute production while Pakistan worked to increase its jute processing capacity.

India has attained near self-sufficiency in jute production, primarily as a result

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Better Yields Still Could Jinx Japan's Rice Cutback Plans

By JOSEPH R. BARSE
Foreign Demand and Competition Division
Economic Research Service

Bad weather gave a big assist in 1971 to Japan's program to cut back its rice production. (*Foreign Agriculture*, Nov. 8, 1971.) Spring cold snaps and summer typhoons cut average rice yields 7 percent from 1970. Moreover, Government-inspired acreage diversion led to an 8-percent smaller area planted to rice than in 1970. As a result, 1971 rice production was down by 14 percent.

The 1971 crop of 10.9 million tons also fell well below the Japanese Government's production target of 11.7 million tons. (Rice figures are brown basis and metric tons throughout.) Output in 1971 was 650,000 tons less than the nation's normal rice needs for the November 1971-October 1972 marketing year, as projected by the Japanese Government, not counting surplus disposal.

Thus, in the months ahead, Japan's rice stocks will be drawn down more rapidly than previously thought to meet normal consumption. If current rates of surplus disposal continue as planned, Japan's total rice inventory on October 31, 1972, will be about 3 million tons, far below the alltime year-end peak of 7.2 million in October 1970.

Nevertheless, it is much too early to be confident that Japan's present rice cutback program has overcome the supply-demand imbalance which led to the excess stocks of rice and disposal for feed and exports in competition with U.S. grains. Given normal or very good weather in another year, the long-term trend of rising rice yields could re-emerge to jinx the present targets for Japan's rice programs.

Since 1946, Japan's advancing rice yields have clearly traced out three yield "plateaus," each higher than the one before. Even the lower 1971 yield fits this plateau pattern.

From 1946 through 1954, each year's nationwide yield was between 1.11 and 1.36 tons per acre, with an average for the period of 1.26 tons. From 1955 through 1966, the yields ranged between 1.38 and 1.60 tons, averaging 1.53. From 1967 through 1971, each yield was between 1.64 and 1.79 tons (1971 was the 1.64 low point), with an average of 1.74.

The two moves from lower to higher plateaus each were signaled by yield increases, of 28 percent for 1954-55 and 13 percent for 1966-67, the greatest leaps between yields of successive years. During 1946-71, rice yields advanced at the rate of 1.7 percent a year between the plateau averages.

One of the keys to Japan's productivity in rice farming is the way high-quality farm inputs such as seeds, irrigation, and chemicals are managed and combined. Technological improvement in the quality of one input often must be complemented by improvements in other inputs in order to achieve maximum output potential.

Complementary improvements are neither developed by research nor disseminated among farmers at the same rates. Therefore, it can take a decade before most farmers complete their move to a new technological combination in rice farming and to a higher yield plateau.

Past and current yield plateaus suggest that, in the future, the next higher plateau could form around an average yield of 2.0 tons per acre. Yields now achieved by advanced farmers as well as those of experimental plots and results of contests help define the limits of Japan's rice yield potential.

Japan's annual rice contest winners regularly have obtained yields above 3 tons per acre since 1949, and since 1955, winners with yields above 4 tons have not been unusual. The Japanese plant scientist, S. Matsushima, in his book *Crop Science in Rice*, suggests a detailed method for obtaining yields above 2.95 tons per acre.

While the highest experimental or contest yields will not be reached as a national average, there is still much room for the average to rise. A progressive farm village in Niigata Prefecture boasted a 1970 village yield of 2.19 tons per acre.

Two arguments are sometimes made against the prediction that Japan's rice yields will continue to rise. It is argued that current high yields have come from new rice varieties which, while most productive for farmers, have relatively poor taste and appeal to consumers. Thus, the need to attract consumers will force special measures to extend planting of consumer-preferred varieties at the expense of yield per acre. Rice is beset by many competing foods and its production must become market-oriented.

Another argument is that the drive to prevent environmental pollution from pesticides and herbicides will lead to a cutback in their use and a resulting decline in rice yields. Already chemical compounds of mercury for the control of rice blast have been banned.

Although these arguments express legitimate concerns, they are not convincing as forecasts of future rice yield declines. The research findings and applied results of Japanese plant scientists help to explain why the nation's rice yields are almost sure to keep rising.

In 1971, hundreds of rice varieties were grown in Japan, each specifically adapted by Japanese plant breeders to local conditions. Most of the commercially important varieties now grown have been introduced since 1946, many during the past 10 years. The major rice breeding efforts of Japan's agricultural experiment stations continue unabated, despite the acreage cutback program.

Researchers in charge of rice breeding programs have multiple goals for a new variety, such as more resistance to plant disease, higher yield, adaptability to local conditions and to

mechanized planting and harvest, greater protein content, and better taste. While there is compromise among these goals, there is no conflict between higher yield and better taste. A realizable aim and continuing challenge is to improve all useful attributes through new varieties.

Of course, two rice varieties can be paired arbitrarily to show that for some years the one rated more tasty by consumer panels yielded less per acre than the one rated less tasty. But, the reverse also could be shown with another pair of varieties.

The point is that new varieties of excellent taste have been introduced—varieties which decisively outyield predecessors. The same research process responsible for these new varieties continues, backed by strong governmental and local support, with every prospect for future success. This process will boost yields in the future just as in the past.

Similarly, varietal improvement also is an effective weapon in the fight against plant diseases and pests. In addition, adequate farm chemicals already are available to substitute for those removed from use because of the threat of pollution. The fight against pollutants can succeed without harm to rice yields.

The rapidity with which farmers adopt new varieties and new production techniques is strongly related to prices they receive for their crop. A rising support price for a grain is a key signal for farmers and the entire agribusiness complex to apply yield-boosting technology to growing that grain. In Japan, the price signal is still bright green, despite acreage reduction.

After the rice acreage diversion program for 1971 was announced, the Japanese Cabinet, last May, approved an increase in the Government Food Agency's purchase price of 1971-crop rice to $395 per ton from $383 for rice of the 1970 crop. Moreover, prices for rice sold through the new independent channels are even higher, boosted above the official prices by a Government subsidy.

The Government's acreage cutback program itself has a yield-increasing effect on the national average, because lands being diverted out of rice are lower yielding, while the higher yielding lands remain in production. This effect is seen in the results of the 1970 diversion program and in the Ministry's 1977 plan to concentrate rice farming in the more productive regions of the nation.

In the 1977 plan, the official rice yield projection of 1.92 tons per acre includes a small upward adjustment to reflect the diverting of lower yielding rice paddy land. Yet, with the planned diversion of 29 percent of the nation's 1969 rice land by 1977, such a small adjustment might not be enough. Diversion of poorer lands continues to be accompanied by many local land projects to improve the productivity of remaining lands.

The projected yield of 1.92 tons per acre for 1977, if correct, would mean an average increase of 1.5 percent a year in rice yields for the period 1969-77. However, if the actual increase rate turns out to be higher, as well it might because of diverting lower yield land, promoting better water control and farm technology, and spreading new varieties, Japan still could be producing surplus rice in 1977.

If rice acreage in 1977 exactly attains the Government's target of 5.8 million acres, but yield rises by an average of 2 percent a year to reach 2.02 tons per acre, 600,000 tons of surplus rice still would be produced. This assumes that the Ministry's 1977 rice consumption projection is accurate.

Yet this consumption projection of 11.1 million tons easily could be too high. The decline in the consumption of milled rice for food has been occurring at a rate of 2.7 percent a year during 1962-70. (1962 was a peak year.) However, the Ministry's 1977 consumption projection for milled rice for food implies a rate of decline of only 2.3 percent for 1969-77. If, instead, consumption continues to slide at the 2.7-percent annual decrease rate, the 1977 rice surplus would come to about 820,000 tons, assuming the 2.02-ton yield.

Unless the Japanese Government decides to divert even more acreage during 1972-77 than is now publicly announced, rice surpluses still could be produced regularly. Nevertheless, existing acreage diversion targets apparently

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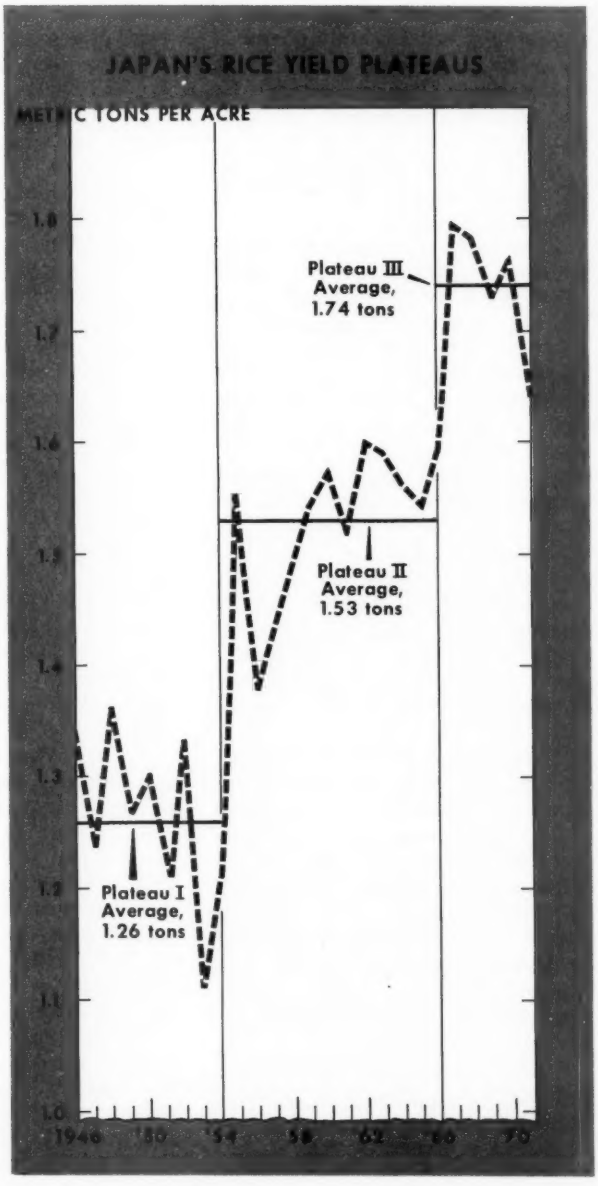

BRAZIL

TO RELOCATE HALF-MILLION SETTLERS IN AMAZON REGION

Brazil has started to relocate its first 10,000 settlers in the Amazon River region as part of the country's National Integration Program (NIP), a plan to populate the vast emptiness of one of the world's last great frontiers—the Amazon Basin. The program calls for the ultimate resettlement of some 500,000 persons.

The importance and magnitude of the NIP are summarized enthusiastically in a Brazilian publication:

"Never was an attempt at conquering the land so spectacular—the world's largest mining companies investing . . . billions of cruzeiros; the industrial giants of south Brazil constructing superpastures for the world's greatest livestock venture of modern times; thousands of kilometers of highways being opened in the heart of the timeless forest; a colonization plan that anticipates a human dislocation comparable to the exodus of the Hebrew people."

The motives behind the program are political as well as social and economic. One compelling reason is the desire to open the natural wealth of the Amazon region to land-, job-, and food-hungry people of the country's northeast, where 30 million of Brazil's 92 million people live.

To accomplish the relocation envisaged by the NIP, the Government turned over to its National Colonization and Agrarian Reform Agency (INCRA), of the Ministry of Agriculture, the task of selecting and moving 100,000 families—500,000 persons—onto homestead plots of at least 247 acres located along the highway axes. This first step is to be accomplished in 5 years; a longer-range program will be developed for the future.

INCRA has reserved unused lands for colonization to a depth of 60 miles on either side of new Federal highways now being constructed, an area larger than Mexico. The first colonists have already chosen their own plots with 540 yards of road frontage and a depth of 1.2 miles. Later arrivals will be located farther from the main highways.

INCRA hopes to settle the first 10,000 families along the Transamazônica Highway in the 12 months that began July 1. In mid-October 668 families had been relocated and 400 others were working for INCRA at service jobs awaiting houses and planting time. For many of them, the land they plant this first year with subsistence crops—and the new four-room houses—are their first property. Titles will be turned over to them when they have worked the land satisfactorily for 2 years.

INCRA promised the settlers a modest house with five of their 247 acres or more cleared for planting. Provisional titles enable them to borrow money to clear more land and buy tools and seeds. Settlers are paid a minimum salary for 6 months and temporary employment is offered to one dependent; and minimum crop prices are guaranteed for 2 years. At the end of that time it is anticipated the newcomers will be able to stand on their own feet.

The Government also provides indirect support in the form of schools and technical, medical, and dental assistance. Farmers are taught what they can produce and how best to do it under tropical conditions with modern inputs and techniques, when to plant, and how to fight pests. And highly important to drought-oriented northeasterners—they are taught how to cope with an excess of water rather than a scarcity of it.

The NIP calls for the establishment of three types of population centers in the Amazon region. The smallest of these is the *agrovila*, a grouping of 50 family dwellings with a primary school, a health service, and a few small shops. Next in size is *agrópolis*, made of 20 agrovilas (or 1,000 families plus the colonists living at 540-yard intervals along adjacent highways). The largest center will be the *rurópolis*, embracing the lesser communities within a radius of about 40 miles.

Because the Government shies away from creating a statist entity in the Amazon area, President Médici, in a nationwide broadcast, called on the private sector to cooperate in the colonization by participating in crop and cattle projects and in construction of feeder roads and agrovilas.

The settlers will plant subsistence crops at first to avoid discouragement by possible failures of more ambitious crops in the beginning. The Federal research station at Belém recommends rice, beans, corn, manioc, and soybeans as short-cycle crops suited to the Amazon. Gradually the cycle will lengthen to include such products as pepper, cocoa, coffee, guaraná (a berry used in food, medicine, and a soft drink), dendê (oil palm), cashews, rubber, and sugarcane for domestic consumption and eventual export.

The NIP was inaugurated 18 months ago by Brazil's President Emílio Garrastazu Médici and may be the single most conspicuous undertaking of his administration. It contemplates a 9,000-mile network of highways to tie eastern seaports to the far west, and northern mines, trees, and mighty rivers to the industrialized south.

The greatest of the new roads—the Transamazônica, or, as it is called, the *Trans*, which runs roughly parallel to the Amazon River and some 200 miles south of it—is being called "the dorsal spine of Brazil." For 3,500 miles, it will make its way through the dry northeast. Then, after thousands of men have moved countless tons of earth, bridged hundreds of streams, and felled millions of trees, the road will continue to the Peruvian frontier. Another major road will cross the Trans and run north and south from Santarém—an Amazon River port—to Cuiabá, capital of the State of Mato Grosso. Still others will push to the frontiers of neighboring countries and to the east and south.

From an agricultural viewpoint, the greatest unknown about the Amazonian venture is how the thin layer of jungle topsoil will perform when its protective covering of trees is removed and the blistering sun and pelting rains—among the most abundant anywhere—are al-

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Based on a dispatch by John C. McDonald, U.S. Agricultural Attaché, Brasília.

lowed to have free access.

Dr. Wilhelm Brinkmann, chief of the Ecology Department of the National Research Institute of Amazônia, says the Amazon soil, if properly managed, can produce anything; "if not, it dies and becomes a Sahara."

Realidade magazine, which quoted Dr. Brinkmann in a special Amazônia issue in October 1971, said that all life in the forest depends upon the forest itself. "It is the forest that feeds the microorganisms which fertilize the soil and permit the birth and growth of new trees. It is the providential sponge that releases rainwaters slowly and prevents a tropical storm from becoming a frightening flood that carries away all the fertile topsoil."

Two settlers clear underbrush on Brazil's Amazon frontier. Each family gets 247 acres from the Government.

It was said that in the Amazon forest the rains wash away only 1 kilo (2.2 lb.) of earth per year, but if the trees are cut down in the same area, the rains would cause an annual loss of 34 tons of raw material.

A radar air survey is currently underway to map the natural resources of the Amazon region, especially the areas of fertile soil.

Private trials to test agricultural methods for the Amazon—said to be the most advanced in the region and perhaps in the world—have been conducted on the extensive holdings of D. K. Ludwig, an executive of the American firm, National Bulk Carriers.

Technicians on the Ludwig plantation—a 3.7-million-acre area in the States of Pará and Amapá and probably the world's biggest artificial forest and agricultural project—have succeeded in producing more than 3.2 metric tons of rice an acre twice a year. (In south Brazil, the average yield of irrigated paddy rice is 1.3 tons per acre annually.) Rice on the Ludwig estate is planted in riverbank lowlands fertilized naturally by suspended material carried by the Jari River.

Extensive planting tests have also been made of a fast-growing Asian tree, the bushbeech—*Gmelina arborea*. Some 17 million trees have been planted on thousands of cleared acres. One hundred million new trees are projected by 1980, but before that time some of the initial Ludwig plantings will have been cut for lumber and replaced.

The agricultural product that has the best long-term potential for Amazon exports in the view of Brazilian planners is meat. The Amazon region is in a strategic position to export to the markets of Europe and North America because transportation costs are much less than from Australia and Argentina, the two nations that would be Brazil's principal competitors, and from south Brazil as well.

The King Ranch of Texas, Swift do Brasil S. A., and Armour do Brasil S. A. have undertaken a joint ranching venture which controls nearly 200,000 acres near the Belém-Brasília highway in the State of Pará.

By upgrading the domestic mixed-breed animals (of zebu blood) with big-framed, fast-gaining Santa Gertrudis, and aided by plentiful pastures—the product of the year-round rains—the King-Swift-Armour venture hopes to fatten cattle for market in less time than the 4 to 6 years normally required by other breeders in Brazil.

The Brazilian Government is granting tax relief to individuals and corporations to induce them to invest part of their income in Government-approved projects. As a result, the Amazon Development Superintendency (SUDAM) has approved fiscal incentives for 253 plantations and in late 1971 was giving the green light to an average of five more projects per month. As a result of this pending growth, the president of the Bank of Amazônia predicted recently that within 3 years the Amazon would be contributing 200,000 tons of beef to Brazil's annual production. There are some, however, who believe this estimate to be too optimistic.

The influx of projects into the Amazon region has resulted in enlightened management practices generally missing in the livestock industry in Brazil. Among these are planting of artificial pastures, pasture rotation, soil corrective measures, improved control of foot-and-mouth disease and parasites, and improved breeding stock adaptable to existing ecological conditions.

Although the NIP has many proponents, there is also some opposition. There are those who believe that the destruction of trees in the huge number envisaged, the grading of millions of tons of soil, the influx of humans and cattle into previously undisturbed areas, the routing of roads through wild jungles, the bridging of numerous streams, the introduction of farm crops where previously only jungle growth flourished will upset the balance of nature. Others fear that these will destroy the forest heritage of the Amazon in the same way that sugarcane and coffee cycles were responsible for the destruction of lesser forests in the northeast and south of Brazil.

Whether these fears be true or not, already a few doughty colonists—perhaps the last pioneers in a world with few frontiers to conquer—are putting down roots where trees have recently been torn up. Their lives will be hard and precarious, and no one can guarantee their success. Yet the start has been made, and only the passage of time will reveal whether the Amazon jungle—defeated by man and his machines—will remain quiescent, or will take its revenge.

World, National, and Private Organizations Launch International Agricultural Research

By LEE R. PARAMORE
International Organizations Staff
International Affairs and Commodity Programs

A new, expanded approach to international agricultural research was launched in December 1970 under the sponsorship of the International Bank for Reconstruction and Development (IBRD), the Food and Agriculture Organization (FAO), and the United Nations Development Fund (UNDP) in cooperation with private foundations, regional development banks, and the governments of 15 nations.

This expanded program was first conceived at a Rockefeller Foundation-sponsored conference held in Bellagio, Italy, in early 1970. The success of international cooperation in developing high-yielding rice and wheat strains and hybrid corn prompted several organizations to seek ways to fill the gaps which remained in international agricultural research. Most important, the Bellagio conference stressed the need for strengthening and broadening international agricultural research through the combined efforts of international organizations, private foundations, and national governments.

The discussions at Bellagio led to the formation of the Consultative Group on International Agricultural Research in January 1971. The objectives of the Consultative Group are: To examine both the short- and long-term agricultural research needs of developing countries; to assure international coordination of research programs; to provide a continuing review of research through a Technical Advisory Committee; and to seek financing for international research programs.

At its first meeting, held in Washington, D.C., in May 1971, the Consultative Group decided to invite five developing countries (selected on a regional basis) to become members and participate in the research program and established a 12-man Technical Advisory Committee.

The Technical Advisory Committee will: Advise the Consultative Group on the main gaps and priorities in agricultural research related to developing countries; recommend feasibility studies on agricultural research requiring regional and international effort; provide guidance for the Consultative Group in research matters; advise the Group on the effectiveness of specific existing international research programs; and encourage the creation of an international research information network.

Financing for the expanded program will be provided by the sponsoring organizations, other international organizations, and governments which are members of the Consultative Group; private foundations (Rockefeller, Ford, and Kellogg) will continue their contributions to existing research programs. The total potential contributions in 1972 total about $16 million—$10 million from the sponsoring international organizations and governments and $6 million from the foundations.

All contributions are voluntary; membership in the Consultative Group does not signify a commitment for financial support of the international program. The government contributions are subject to legislative or administrative approval by individual countries. However, the success of the expanding program is dependent on the contributions of the sponsoring organizations and donor governments.

At its second meeting, held in Washington in December 1971, the Consultative Group considered the first Report and Recommendations of the Technical Advisory Committee. Besides recommending the continuation of current programs on cereals and tropical products, the Committee recommended several new programs:

- **The Program for Animal Health and Production in Africa** would establish a laboratory for animal diseases, especially the killer diseases of East Coast Fever and trypanosomiasis. Since the Rockefeller Foundation is already supporting the development of a laboratory in Kenya, funds are available to immediately initiate this program. This laboratory would represent the first step in the development of an international program for research on animal production and health. A future study will determine what additional international research facilities should be developed in the main ecological zones of the world.

- **The International Research Institute for the Semi-Arid Tropics** would establish a research institute in India which would improve sorghums, millets, and food legumes, and would develop and demonstrate improved cropping patterns and systems of farming in the semiarid tropics. The institute would be linked with local stations throughout Africa and the Indian subcontinent and eventually extend to similar areas in Southeast Asia, the Middle East, Latin America, and Australia in order to facilitate the establishment of outreach programs and to feed back information.

- **The International Potato Research Center** would provide research for the development of this important nutritional staple. Since an initial regional research program is already underway in Peru, the Consultative Group will support this research until an international program has been developed.

In addition to these programs, the Technical Advisory Committee recommended studies in the areas of genetic resources, food legumes, computerized research information systems, aquaculture, vegetable and livestock production in Southeast Asia, and protein production in Latin America.

The Consultative Group hopes to eventually extend its international research efforts to all phases of agriculture—crops, livestock, forestry, and fisheries.

Plant Geneticists Plan World Resource Centers

The Food and Agriculture Organization of the United Nations and the U.S. Government sponsored an ad hoc working group meeting on plant genetic resources at Beltsville, Maryland, March 20-25. This meeting was held on behalf of the Technical Advisory Committee (TAC) to the Consultative Group on International Agricultural Research.

This meeting is preparatory to the TAC's recommendation for the establishment of a world network of genetic resource centers. About 25 geneticists from the Soviet Union, Western Europe, Australia, India, Africa, and the United States—as well as representatives from several international research institutes—attended the meetings.

Brazil's New Soybean Crop May Beat Record By Million Tons

From a record 1970-71 crop estimated at 2.1 million metric tons, some optimists expect Brazil's soybean production in 1971-72 to climb by another 1 million tons to slightly more than 3 million. The 1969-70 crop was 1.3 million tons.

Rio Grande do Sul is expected to be top producer in 1971-72 with an output estimated at 1.9 million tons. Paraná will likely produce some 850,000 tons, while São Paulo will grow another 150,000 tons. The States of Mato Grosso, and Goiás will produce yet another 100,000 tons between them.

Increased yields and greater acreage have been largely responsible for the boost in production. Area grew by 59 percent between 1969-70 and 1970-71, from 2.9 million acres to 4.6 million.

Growth in the production of soybeans has, strangely enough, been advanced by Government assistance given to wheat growers. Because farmers have found it is economic to rotate soybeans with wheat, soybean production will probably continue to grow apace as wheat output increases.

Brazil's estimated calendar 1971 exports of soybeans and soybean products were 3,000 tons of oil, 655,000 tons of meal, and 200,000 tons of beans. Compared with 1970, oil exports increased, meal shipments were up by 25 percent, and bean exports declined.

Brazil's export volume depends not only on price, but also—and perhaps more importantly—on the soybean situation in the United States. Brazil's soybean crop comes in toward the end of the U.S. crop and, therefore, the size of the U.S. carryover limits Brazilian soybean exports.

Generally the market for Brazilian meal has been good and indications are that its export will increase steadily in the next few years. But because of the larger production predicted for the 1971-72 crop and also because of the expected oil surplus this year prices will probably drop.

Whether these factors will make Brazilian oil more attractive on the world market this year cannot be determined at this time. The trade is pessimistic about this year's market, but it hopes that within the next year or two, the Government of Brazil will take action (probably in the form of additional tax incentives) to insure the competitiveness of Brazilian oil.

Within Brazil, consumer use of soy products is increasing between 6 and 7 percent a year and the future looks bright. Soft margarine was market tested in Rio de Janeiro last year and its production and sale will begin in São Paulo soon.

Consumption of soybean products by the feed industry is also expanding, especially as Brazil's poultry and swine industry grows and becomes more aware of the advantages of using protein meals. Figures are not available on actual use by the feed industry, but there is no question that soybean meal will find an ever expanding market as its use in animal feed increases.

Although the domestic soybean price situation was so unstable in 1971 that cheaper alternatives were often substituted in feed rations, feed companies now believe that within the next 5 years they may be supplying domestically produced soybean meal to Brazilian cattle operations.

—Based on a dispatch by
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Assistant Agricultural Officer
São Paulo

American Gourmet Week Attracts Trade Attention in Vienna

An American Gourmet Week held recently in the Intercontinental Hotel in Vienna was aimed at Austria's catering and retail food trade interested in new foods to serve to local residents and to millions of tourists who visit the country each year.

American Ambassador John P. Humes officiated at the opening reception for the 10-day promotion where 400 important trade representatives sampled 100 different dishes prepared by the hotel chef and his staff. These dishes were prepared from 50 American foods which appear to have the greatest potential on the Austrian institutional food market.

Products used to prepare each dish were available for examination in their original containers. Hotel chefs also explained how ingredients were used in the preparation of each dish and distributed recipes.

American whole turkeys, turkey breasts, thighs, and turkey rolls were served in a variety of ways which were mostly new to Austrians. In addition, dishes were prepared from California peaches, fruit cocktail, raisins, prunes, and asparagus.

Other U.S. products featured in the activity included beef, rice, beets, lima beans, sweet corn, tamales, enchiladas, cherries, dates, french fried onions, sloppy joes, chicken spread, deviled ham, peanuts, peanut butter, mixed nuts, barbecue sauce, olives, meat and shrimp egg rolls, citrus juices, tomato juice, grape juice, vegetable juice, jello, popcorn, cookies, snacks, and several varieties of cake mixes.

Japan's Rice Yields

(Continued from page 7)

would make the surpluses smaller than those of 1967-70. Continuing surpluses probably would be disposed of as concessional exports or animal feed.

Concessional rice exports rose from 366,000 tons in calendar 1969 to 657,000 in 1970. Exports in 1971 through October already had reached 881,000 tons. However, the Food Agency plans to export only 396,000 tons from November 1971 through October 1972, to fulfill concessional agreements.

Sales of rice for feed within Japan may be more advantageous for the Japanese Government than concessional exports for two reasons. First, the Food Agency would get a return of about $65 per ton of rice sold to feed mills. This is a great loss from the $380 per ton paid to farmers for existing stocks, but is an immediate return much greater than from 30-year export credit agreements with almost no payments to Japan during the first 10 years—for example, the long-term agreements with South Korea and Pakistan. Second, the Japanese feed and livestock industries might feel more secure with a modest amount of domestic feed rice to ameliorate effects of unpredictable disruptions in feedgrain imports, such as the U.S. dock strikes.

During 1971, the Food Agency was selling surplus feed rice to Japanese feed mills at an annual rate of almost 1.6 million tons, a slightly higher rate than the 1.4 million originally planned. This rate will decline, however, once the November 1, 1971, inventory of 2.6 million tons of 1967- and 1968-crop rice is exhausted. It will decline, that is, unless the 1972 crop yields a big surplus.

Japan could come to accept some level of rice surplus as normal. Of course, rice can be used as a feedgrain only if Japan is willing to continue heavy subsidies on resale to feed mills. For a wealthy country, even massive continuing subsidies cannot be ruled out. The choice for Japan seems to be between the comforting stability of buffer stocks of rice available for feed and the tougher course of even greater acreage diversion.

Yugoslavia's New Livestock Fund To Aid Producers and Exporters

During the past few years, Yugoslavia has taken several steps to strengthen the position of its baby beef in European export markets. The most recent of these —a development of the past few months —was the establishment of a "Fund to Improve Production and Marketing of Livestock and Livestock Products." This new Government device is to be used to further organize beef production, to assure adequate supplies for the domestic market, and to promote exports of meat and meat products.

The Fund grew out of troubles faced by Yugoslavia's beef industry in 1969 when it produced sizable quantities of baby beef for export to Europe. Prospects looked bright until Italy imposed high duties on imports of this type of beef and the Yuglosav meat packing industry suffered serious losses. As a consequence, feeder herds were cut back and producers lost some of their faith in the stability of the export market.

To help rebuild producer confidence and to provide a stable market, Yugoslavia negotiated a 3-year general trade agreement with the European Community (EC) in early 1970. The pact, which went into effect May 1 of that year, granted Yugoslavia more favorable conditions for the export of baby beef to the Community. (See *Foreign Agriculture*, May 4, 1970, and June 8, 1970.) The establishment of the Fund is Yugoslavia's second step to revitalize its livestock and meat industries.

The Fund encourages livestock producers and the packing industry to sign contracts which specify quantity and quality of beef and pork for future delivery. Agreements on pork delivery run for 3 years, while those for beef are of 5-year duration. With these firm commitments, producers are able to plan their production programs with little concern about their future sales. The effect is that meat production is stabilized so as to avoid both surpluses and shortages in marketable supplies.

Exporters meet each week to discuss the volume of their foreign trade in the previous week and to determine minimum export prices to be charged in the ensuing week. As a basis for these prices they use reports from Brussels on EC prices and duties charged, plus other available market reports. By such cooperative activity, producers get higher prices for baby beef—raised on large socialized farms especially for export—and avoid the need to compete.

An equally important role of the Yugoslav Fund is to protect exporters against financial losses. In cases where an exporter encounters a negative price-duty situation, a portion of his loss is recovered from the Fund. On the other hand, a share of the profits realized from foreign sales is paid into the Fund.

Most of the money used to finance the Fund comes from so-called antidumping surcharges on certain agricultural imports.

A portion of these surcharges is transferred by the Government to the Fund each year. During calendar 1971 the amount was equivalent to $8.7 million. The money paid into the Fund by Yugoslav exporters is determined by calculating a percentage of the positive difference between the export price and the average domestic price for the same product or for a similar one.

This method is somewhat similar to, but not identical with, the import duty and export system used by the EC. Important differences are that in Yugoslavia the duties are effected only in instances where the Government believes that antidumping measures are justified and, further, that exporters themselves cooperate to maintain the level of the Fund. To this extent, Yugoslavia does not regard its method as being an export subsidy, but rather a means of cooperative marketing designed to enable exporters to recoup a part of their losses.

Yugoslav beef exports were down about one-third during 1970 (as a result of production reverses in 1969), but quantities shipped abroad began to increase during the last 6 months of 1971, especially to Western Europe. Last year, exports of fresh, chilled, and frozen beef and veal (calf meat) totaled 47,910 metric tons. As a result of the stimulus generated by the activities of the Fund, beef exports are expected to register sizable gains in 1972.

—Based on a dispatch from
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Indian Jute

(Continued from page 5)

of expansion in area planted. Yields, both in India and Pakistan, have increased only by small amounts during past years.

As Pakistan's loom industry increased it succeeded in increasing its share of the market—partly because of the availability of higher quality jute, but mainly because Pakistan's subsidy policy permitted its products to be priced lower than comparable Indian goods. This has been particularly true for sacking.

However, upon the advent of civil disorders within East Pakistan beginning March 1971, Pakistan's exports of jute manufactures dropped sharply, and importers turned to India to meet their needs. Jute mills in India, previously closed down, were reopened. Large sums of money are being spent for new plant machinery. Investments reportedly will amount to between $10 million and $12 million.

To stimulate production to meet this increased demand the Indian producer-support price for the 1971-72 season was increased by 6.2 percent. Also, the Planning Commission recently approved an intensive jute-growing program which will cost $8 million and aims at adding 840,000 bales to the country's jute production by 1973-74. India hopes that total production by this date will reach 7.5 million bales.

The area proposed to be covered under the scheme is 741,300 acres under improved package practices and another 741,300 acres under extension programs. Prior to these programs, the Indian Government had focused on increased production of food grains, while only limited attention and assistance was given to industrial crops such as jute.

While India presently is in a near-monopoly position as a supplier of jute goods to the world market, the industry is not without its problems. In 1971 it was plagued by unreliable electricity supplies and labor unrest.

An agreement has been reached which, hopefully, will overcome the frequent power shortages. However, labor is demanding wages which the industry states would—if granted—make it too vulnerable to competition from synthetics. The higher wages are being demanded in part because world jute goods prices are now well above prices of a year ago.

But here, too, there is concern. Some sectors of the Indian jute industry are afraid that they are overcapitalizing on the present situation by charging prices that are too high. They believe that markets lost to synthetics will not easily be regained.

Jute and jute goods are just about Bangladesh's major export. Since mid-December that country has set about resuming operations in the mills. Because of plant damage and a shortage of skilled labor and management personnel, full operation is unlikely to be resumed for quite some time. Its mills, however, will have some impact on 1972 supplies. Bangladesh's competition will be keener when its large mills reach full capacity under competent managers.

Bangladesh has recently abolished the subsidy on jute goods exports and has removed the ban on the sale of raw jute goods in India. Delhi and Dacca officials are now holding discussions regarding the establishment of a "Jute Community" on the pattern of the Coal and Steel Community of Western Europe. The proposed Jute Community would act as a supranational authority regulating prices and production of jute and jute goods in the two countries. It would also pool the research and development efforts of the two countries in order to find new uses for jute fiber and to raise the quality of the natural fiber. If the proposed Community comes into being, which is not likely to be for some while, there would be a reduced level of competition between the jute goods producers of the two countries.

Both countries are acutely aware that synthetic manufacturers are investing huge sums attempting to develop a competitively priced suitable substitute for jute carpet backing and that the market for hessian and sacking is expected to continue declining.

Some of the other uses of jute, such as in car upholstery, for example, are also facing setbacks. In the past few months a major auto manufacturer has stated that it will substitute synthetics for jute in all car upholstery. This company alone accounted for 4 percent of the market for jute in the United States —and other car manufacturers could follow its lead.

The adage of the industry has been "jute to be useful must be cheap." This is no longer sufficient. To retain its present markets it must be cheaper than its synthetic substitutes, and importers must be assured of a stable supply.

The proposed Jute Community would be a laudable attempt toward meeting these ends.

INDIA'S JUTE EXPORTS[1]

Item	1964	1968	1969	1970
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
Carpet backing	(2)	122	135	85
Hessian (cloth and bags)	281	127	109	122
Sacking (cloth and bags)	63	20	14	28
Other	11	21	15	17
Total	355	290	273	252

[1] Fiscal year beginning Apr. 1. [2] Not available. *Monthly Statistics of the Foreign Trade of India*, Government of India.

CROPS AND MARKETS

TOBACCO

India Produces Surplus Flue-Cured Tobacco Crop

Recent reports from India indicate a substantial increase in production of flue-cured tobacco in the current season which has resulted in a sharp decline in prices for farmers and has created surplus disposal problems. The excess production is attributed to an acreage increase of at least 10 percent and to improved yields. According to trade sources, the current crop outturn may leave a surplus of up to 50,000 tons (110 million lb.) over the recent year's domestic and export requirements.

Expanded production has been encouraged by a Government plan for development of exportable types of flue-cured tobacco apparently based on a recent optimistic survey of India's export potential of tobacco and tobacco products. Exports of leaf tobacco in calendar year 1971 are expected to rise somewhat over those of 1970, owing primarily to a sharp rise in trade with the USSR.

However, the outlook for trade in the current year appears uncertain because of the entry of the United Kingdom into the European Community and because of the improved relations between the United Kingdom and Rhodesia. Moreover, with minimum export prices established by the Government for various grades, Indian tobacco is receiving more price competition in its major markets from other suppliers, such as the Republic of Korea, Malawi, and the Philippines, which are in a position to supply comparable tobacco.

DAIRY AND POULTRY

Poultry Meat Output, Consumption Up Sharply in Dominican Republic

Poultry meat production in the Dominican Republic has grown rapidly in recent years to keep pace with increasing demand. In 1971, broiler meat production was estimated at 41 million pounds—up almost 50 percent from 1970 output and four times the 1966 level. A further increase of over 20 percent is expected for 1972.

Consumption of poultry meat undoubtedly has been stimulated by a sharp reduction in prices. The price of poultry meat dropped from around 50 U.S. cents a pound in 1970 to 30 cents in 1971 (and sometimes as low as 27 cents).

The Government has been encouraging the growth of the local poultry industry as the best means of increasing total meat consumption. Reportedly, production of both poultry meat and eggs has now reached a level where the country is practically self-sufficient. To maintain continued expansion, large numbers of baby chicks and hatching eggs continue to be imported. The Government readily grants import permits for this purpose. In 1971, U.S. exports of baby chicks to the Dominican Republic totaled 1.3 million; hatching eggs, 1.7 million dozen.

GRAINS, FEEDS, PULSES, AND SEEDS

Rotterdam Grain Prices and Levies

Current offer prices for imported grain at Rotterdam, the Netherlands, compared with a week earlier and a year ago:

Item	Mar. 22	Change from previous week	A year ago
	Dol. per bu.	*Cents per bu.*	*Dol. per bu.*
Wheat:			
Canadian No. 1 CWRS-14 ..	1.98	0	[1] 2.00
USSR SKS-14	([2])	([2])	1.99
Australian FAQ	([2])	([2])	1.89
U.S. No. 2 Dark Northern Spring:			
14 percent	1.93	−2	1.99
15 percent	1.98	−1	2.04
U.S. No. 2 Hard Winter:			
13.5 percent	1.81	0	1.98
No. 3 Hard Amber Durum..	1.86	0	1.91
Argentine	([2])	([2])	([2])
U.S. No. 2 Soft Red Winter..	([2])	([2])	1.86
Feedgrains:			
U.S. No. 3 Yellow corn	1.42	+1	1.75
Argentine Plate corn	1.65	+9	1.76
U.S. No. 2 sorghum	1.49	+2	1.50
Argentine-Granifero sorghum	1.51	+2	1.50
U.S. No. 3 Feed barley	1.20	0	1.42
Soybeans:			
U.S. No. 2 Yellow	([2])	([2])	3.36
EC import levies:			
Wheat [3]	[4]1.65	0	1.47
Corn [5]	[4]1.11	0	.82
Sorghum [5]	[4]1.05	−1	.92

[1] Manitoba No. 2. [2] Not quoted. [3] Durum has a separate levy. [4] Effective October 14, 1971, validity of licenses with levies fixed in advance is a maximum of 30 days. [5] Until Aug. 1, 1972, Italian levies are 19 cents a bu. lower than those of other EC countries. Note: Basis—30- to 60-day delivery.

Argentine Corn Production Declines

Argentina's 1972 corn production is expected to total only 6 million tons compared with 9.9 million last year, according to a preliminary report by the Ministry of Agriculture. Area planted in corn declined nearly 14 percent and unfavorable weather, mainly drought, is expected to result in sharply lower yields. If this estimate proves to be correct, probably less than 2.5 million tons will be available for export—compared to 6.1 million last year.

SUGAR AND TROPICAL PRODUCTS

India Harvests Record Tea Crop

Reflecting favorable growing conditions, India's 1971 tea crop totaled a record 430,000 metric tons, up nearly 2 percent over the 1970 outturn of 422,000 tons. All of the increase came from the northern tea areas, while the southern areas recorded a slight decrease from a year earlier.

World Sugar Prices Rise

The world price of raw sugar (f.o.b., stowed, Caribbean) was at 9.60 cents per pound on March 9. This is the highest level since early 1964. Sugar prices on the futures market for the remainder of 1972 are even higher than the spot price; for 1973, however, they are somewhat lower.

The advances on the sugar futures market have been attributed to currency revaluations and to increased export business. Trading on the futures market has been active. The world spot price for sugar was 0.4 cent per pound above the New York duty-paid price on March 9, although the latter price includes duty and freight charges.

LIVESTOCK AND MEAT PRODUCTS

Chile Expects To Import More Beef in 1972

Chile will need to import substantial quantities of beef and pork in 1972 to meet domestic requirements, according to recent projections by Chilean trade sources. Domestic beef production is forecast at only 143 million pounds—down 34 percent from 1971.

Import needs are projected at a record high of nearly 160 million pounds of beef, 9 million pounds of pork, and 28,000 head of slaughter cattle. In calendar 1971 Chile imported 93 million pounds of beef, 9.5 million pounds of pork, and 44,000 head of slaughter cattle.

In an effort to build up cattle herds, the Chilean Government on January 3 announced restrictions on the slaughter of cattle and domestic sales of beef. Cattle slaughter is permitted only on Wednesday and Thursday and sales of beef are restricted to Friday, Saturday, and Sunday. In a February speech President Allende stated he would not hesitate to ration meat and other food products if that became necessary to protect the Chilean economy.

FATS, OILS, AND OILSEEDS

Canadian Rapeseed Exports Slump

Canadian exports of rapeseed in January 1972 were 19 percent below January 1971, and for the season (August-January) only 7 percent ahead of those of the same period a year ago. Early in the 1971-72 season Canadian exports were running substantially ahead of the 1970-71 level. The margin, however, has been dwindling, and it appears that the 1971-72 export total may not greatly exceed that of a year ago.

In that event, Canada will conclude the season with considerable rapeseed stocks—unless there are sizable relief shipments to India and Bangladesh. Canada harvested a record crop of 98.5 million bushels in 1971, compared with 72.2 million bushels in 1970.

Peru's Fishmeal Output And Exports Increase

Exports of fishmeal from Peru during the September-December 1971 period totaled 830,600 metric tons or more than double the 413,000 tons exported during the same 4 months of 1970. The increase in exports is equivalent to 603,000 tons of soybean meal—or 28 million bushels of soybeans. Peru's fishmeal production during this period was up about 8 percent, to 993,000 metric tons; thus, even though exports increased, so did stocks, which totaled 786,100 tons on December 31.

FRUITS, NUTS, AND VEGETABLES

South African Canned Fruit Prices

London sources report 1972 opening prices for South African canned deciduous fruits. Selling prices in the U.K. market, with comparative openings in recent years, follow.

SOUTH AFRICAN CANNED FRUIT MINIMUM OPENING SELLING PRICES C.I.F. (U.K. PORTS) 1968-72

Fruit and pack style	Fancy	Choice	Standard
	Dol. per doz. 2½'s	*Dol. per doz. 2½'s*	*Dol. per doz. 2½'s*
Apricots:			
1968	2.76	2.64	2.52
1969	2.91	2.82	2.70
1970	3.42	3.30	3.18
1971	3.51	3.39	3.27
1972	3.74	3.61	3.39
Peaches, clingstone halves and slices:			
1968	2.76	2.64	2.52
1969	3.00	2.91	2.79
1970	3.27	3.18	3.06
1971	3.51	3.39	3.27
1972	3.84	3.71	3.52
Pears, Bon Chretien halves:			
1968	2.97	2.85	2.73
1969	3.18	3.09	2.97
1970	3.42	3.30	3.12
1971	3.51	3.39	3.27
1972	3.84	3.71	3.52
Fruit salad:			
1968	4.14	4.02	3.90
1969	4.23	4.11	3.99
1970	4.32	4.20	4.08
1971	4.50	4.38	4.26
1972	4.63	4.49	4.36
Fruit cocktail:			
1968	3.69	3.51	3.39
1969	3.84	3.69	3.57
1970	3.90	3.78	3.66
1971	4.08	3.96	3.84
1972	4.49	4.36	4.23

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FOREIGN AGRICULTURE

Australian Agriculture Continued from page 4

sumption. However, a deliberate decision to produce feed wheat would substantially alter this projection. Coarse grain output would be much higher than under the constant-price assumption. Barley output was projected to reach 142 million bushels and grain sorghum about 54 million. This would mean added competition for the United States.

Output of beef and veal was projected at 1.4 million tons with beef herd numbers rising at a rate of 5.5 percent annually above the base period. This would tend to keep Australian pressure on the United States to ease meat import restraints. Lamb production also was projected to be higher than under the other two assumptions while sheep numbers were estimated at about 187 million head—a 1.5-percent annual rate of increase. This, coupled with a slight rise in fleece weights, results in a projection of 2.1 billion pounds of wool in 1975, compared with 1.8 billion in the base period.

PRODUCTION AND EXPORTS OF COMMODITIES, AVERAGE 1966-68, 1975 PROJECTIONS

Item	Wheat	Oats	Barley	Corn	Sorghum	Beef and veal	Mutton	Lamb	Wool
PRODUCTION	*Mil.*	*Mil.*	*Mil.*	*Mil.*	*Mil.*	*Mil.*	*Mil.*	*Mil.*	*Bil.*
Average:	*bu.*[1]	*bu.*[1]	*bu.*[1]	*bu.*[1]	*bu.*[1]	*lb.*	*lb.*	*lb*	*lb.*
1966-68	429	81	57	7	13	1.998.1	844	584.6	1.83
Assumptions, 1975:									
No. 1[2]	504	88	67	9	15	2,699.2	1,097.6	683.2	2.07
No. 2[3]	459	80	61	8	14	2,714.9	1,129.0	703.4	2.13
No. 3[4]	375	99	142	10	54	3,089.0	1,097.6	728.0	2.07
EXPORT AVAILABILITY									
Average:									
1966-68	338	23	19	.6	3.9	940.8	349.4	47.0	1.75
Assumptions, 1975:									
No. 1[2]	395	25	17	1.8	4.0	1,368.6	582.4	11.2	1.99
No. 2[3]	350	16	11	.8	2.4	1,384.3	613.8	31.4	2.05
No. 3[4]	265	35	92	3.5	43.0	1,689.0	609.3	22.4	1.99

[1] Bushel weights (in pounds) are: wheat, 60; oats, 40; barley, 50; corn, 56; sorghum, 60. [2] Continuation of average of 1966-68 prices and an elastic export demand. [3] Same as assumption 1 except a 15-percent decline in grain prices. [4] Continuation of wheat quotas and selected price adjustments.

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-68,

Wool

Bil.
lb.

1.83

2.07
2.13
2.07

1.75

1.99
2.05
1.99

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